The Institution of Engineers, Australia; Sydney Division
Engineering Heritage Committee

Oral History Program: Biographical Notes

Henry KOBLER (1924 -)
Electrical Engineer

Birth & Family: Born Heinz Kobler 29 May 1924 in Vienna, Austria. His father was a mechanical engineer and the family migrated to Australia in March 1939 due to Jewish descent.

Education: Cleveland Street Intermediate High School, Intermediate Certificate in 1940. Tool making apprenticeship while attending evening classes for two years, Leaving Certificate in 1942. Apprenticeship terminated and enrolled in Department of Mechanical and Electrical Engineering at Sydney University in 1943.

Qualifications: Bachelor Science in Physics and Mathematics (1944), Bachelor Electrical Engineering (Electronics) First Class Honours (1947), Master of Engineering (1968).

Memberships: Fellow of the Institution of Engineers, Australia.

Fellow of the Institution of Radio and Electronics Engineers, Australia.

Awards: Flynn Trophy for novice boxing and two interfaculty titles while student in Engineering.

Oswald Mingay Award of the Institute of Radio and Electronics Engineers for paper on 'Design of a Servo-system for Guiding a Solar Telescope'.

Work History: Kobler spent the mandatory three months practical work at Division of Radio Physics of CSIRO, working with Radar tracking of iodine seeded rain clouds. While at CSIRO he translated chapter of astronomy book from German to English.

In 1948 he started work as Junior Electronics Engineer at the Radio Transmission Division of Standard Telephones and Cables Pty. Ltd., (STC) Alexandria, where he worked on the design and development of mobile radio transmitters of the VHF Band.

He married Louise Wolfus in 1951 and two years later obtained leave of absence from STC to broaden his experience by working in England. He sought work outside the parent company STC England and was appointed assistant section leader of the Radio Link Section of the Decca Radar Company in Surrey, who had provided radar equipment for the D-Day landing. Kobler worked on a video section of a microwave link intended to transmit radar information visually for display at a remote location. He also set up the 'type acceptance tests' of the whole microwave link equipment before entering a contract for links for the French Government to be manufactured by TSF in France. His experience in England gave him a larger picture of electronic design. While in London he attended evening courses mostly in mathematics at two Technical Institutions.

Kobler returned to Australia in 1955 and rejoined STC, taking part in the design of the receiver end of a point to point, microwave link using pulse position modulation (PPM) to transmit 20 telephone channels for the Post Office. One of the first links was installed between Sydney and Wollongong. The designs were based on designs developed during WW2, therefore the requirement was simply to meet certain specifications.

STC built and installed a high power, low frequency, amplitude keyed transmitter near Canberra during WW2 for the Australian Navy. The Navy contracted STC to convert the transmitter to frequency-shift modulation and improve the efficiency of its aerial system. Kobler carried out a theoretical and model investigation into the behaviour of equivalent circuits to those used for coupling the transmitter stages, and designed additional testing circuits to ensure their proper tuning. He also carried out model experiments on a new aerial configuration and prepared the report that STC submitted to the Department of the Navy, which formed a section of the specification for the modification of the transmitter.

Henry Kobler also led the project to design low power radio transmitters, intended for communication between shore and small ships, for Indonesia under the Colombo Plan.

Further career advancement at STC required the acceptance of more management duties and less technical engineering design, so in 1960 Kobler left to take up the position of Experimental Officer in the Physics Division of CSIRO. He worked in the Solar Physics Section and designed equipment used in the development and maintenance of electronic and other equipment for research programs at the solar observatory at Fleurs near Sydney. He also participated in the design of an electronic servo system to control an optical, multiple-element Fabry-Perot interferometer. Kobler obtained his M.E. degree at Sydney University in 1968 for a thesis on ‘Servo-Control of a Fabry-Perot Interferometer’.

Kobler represented the CSIRO to the State Government Authority that designed and constructed the relocation of the solar observatory to Narrabri. The two solar telescopes installed contained elements he designed including the optical guidance systems. During this period he was Technical Editor of *Journal of the Institution of Radio and Electronic Engineers* for about two years. After the installation at Narrabri was complete Kobler was sent around the world on a research trip to other observatories. Insufficient funding was available to implement the promising techniques he observed.

In 1970 he was seconded to the Anglo-Australian Telescope (AAT) project to be built at Coonabarabran NSW. He was based in Canberra for two years and responsible for the guider and acquisition systems. For the first time a guider was to be an integral part of the initial installation. Kobler was required to visit USA and elsewhere to learn more about extant guiding and acquisition systems and to interact with suppliers. Mr and Mrs Kobler met HRH Prince Charles at the inauguration of the AAT in 1974.

Kobler returned to the CSIRO in 1975 in the Microwave Measurement Section and worked in the development of a variable microwave attenuator, which measures loss of energy. He also developed computer programs concerned with the behaviour of electrical circuitry. Kobler retired in 1984 following a heart attack and subsequent coronary by-pass surgery.

He undertook part-time work in electronics for a former colleague's company engaged in producing equipment for measuring humidity and producing humidity test chambers.

In 1988 Kobler volunteered as a part-time electronics and instrumentation consultant in the Cardiology Department of Royal North Shore Hospital. He designed a 'Continuous Non-Invasive Blood Pressure Monitor' with a Cardiology Registrar, which used a pressure cuff around a finger to maintain blood volume measured by an infra-red transmission across the finger. This development using a servo system enabled commercial development of this European invention.

Kobler then transferred to the Co-operative Research Centre on Cardiac Technology at Royal North Shore Hospital and worked on computer modelling of arterial blood flow. He presented a paper on aspects of computer modelling on blood circulation at an international conference, 'Computers in Cardiology'.

Altogether he presented and/or published 26 technical papers during his career, 12 of these on his cardiology work. Henry Kobler retired from his cardiology work in 1997.

Prepared by Linda Windley, July 2002 from oral history interviews conducted on 4 February 2000